

**To:** Rob Runkel[runkel@usgs.gov]; Way, Steven[way.steven@epa.gov]; Wall, Dan[wall.dan@epa.gov]; Guy, Kerry[Guy.Kerry@epa.gov]  
**From:** Christner, Jan  
**Sent:** Sat 8/29/2015 10:27:20 PM  
**Subject:** RE: USGS streamgaging assistance, Thurs Sept 3; Was: second set of samples (fwd)

Is there any value in adding the other major mines in the vicinity (Mogul, Red and Bonita, American Tunnel and maybe Silver Ledge)? We did that on 8/22 so I'm not sure if it adds much to the knowledge base, just thought I'd ask since we will have the USGS flow measurement team.

-----Original Message-----

From: Rob Runkel [mailto:runkel@usgs.gov]  
Sent: Wednesday, August 26, 2015 3:37 PM  
To: Steve Way; Dan Wall; guy.kerry@epa.gov; Christner, Jan  
Subject: USGS streamgaging assistance, Thurs Sept 3; Was: second set of samples (fwd)

All--

Steve, Jan and I talked this morning about having a USGS streamgager accompany your sampling team sometime next week.

We have someone available on Thursday Sept 3, so let me know ASAP how that works for you. I think it would be good to repeat the sampling I did on 8/13, w/ a couple of additions.

(See email below where I compare 8/13 results w/ other data).

This would give us an idea of the current state of the treatment system.

suggested sites:

- 1) Gold King @ portal culvert
- 2) CC03 Cement Creek above North Fork Cement Creek  
N37.89559 W107.64702
- 3) outflow from treatment ponds
- 4) CC18B Cement Creek above the American Tunnel and below the North Fork  
N37.89258 W107.64834
- 5) CC20 Cement Creek above South Fork Cement Creek  
N37.88970 W107.65327
- 6) CC48, Cement Creek Gage

Again, \*\*\*let me know if Thur Sept 3 is a 'go' or not\*\*\*

thanks, Rob

-----  
Rob Runkel  
Research Hydrologist  
U.S. Geological Survey  
runkel@usgs.gov  
303.541.3013  
<http://profile.usgs.gov/runkel>  
-----

On Tue, 18 Aug 2015, Rob Runkel wrote:

>  
> Steve --  
>  
> Plots to go along w/ the spreadsheet I sent earlier today. Looks like  
> you have an issue w/ Cd, Cu, and possibly Pb. (all consistent w/ the  
> data and analysis I sent you on Saturday). This currently isn't a big  
> issue due to dilution from the upper animas and mineral (both flowing  
> at about 100 cfs last week), but it may be in the future. I think you  
> want bump the pH up to 6.5 (its currently  
> 5) - so that you sorb more Cu, Cd, and Pb. The good news is Zn is OK as is.

>  
> guide to red dots:

>  
> first one - above Gold King  
> second one - below Gold King (above American Tunnel) third one - below  
> American Tunnel (above South Fork)  
> fourth - Cement Gage

>  
> -----  
> Rob Runkel  
> Research Hydrologist  
> U.S. Geological Survey  
> [runkel@usgs.gov](mailto:runkel@usgs.gov)  
> 303.541.3013  
> <http://profile.usgs.gov/runkel>

>  
>  
> On Tue, 18 Aug 2015, Rob Runkel wrote:

>  
>>  
>> All - here are the results for the samples I collected last  
>> Thursday. I'll make some plots comparing these concentrations to  
>> those we observed Oct 2012.

>>  
>> sites sampled 8/13:

>>  
>> CC03 Cement Creek above North Fork Cement Creek N37.89559 W107.64702  
>> CC18B Cement Creek above the American Tunnel and below the North Fork  
>> N37.89258 W107.64834  
>> CC20 Cement Creek above South Fork Cement Creek N37.88970  
>> W107.65327  
>> CC48 Cement Creek near mouth, USGS gage #09358550

>>  
>> pH at outlet of 4th treatment pond was 5.0 at 16:35 on 8/13; see  
>> spreadsheet for other details.

>>  
>> -----  
>> Rob Runkel  
>> Research Hydrologist  
>> U.S. Geological Survey  
>> [runkel@usgs.gov](mailto:runkel@usgs.gov)  
>> 303.541.3013  
>> <http://profile.usgs.gov/runkel>

>> -----  
>>  
>>

CONFIDENTIALITY: This email and attachments may contain information which is confidential and proprietary. Disclosure or use of any such confidential or proprietary information without the written permission of Weston Solutions, Inc. is strictly prohibited. If you received this email in error, please notify the sender by return e-mail and delete this email from your system. Thank you.